## REMARKS

Applicant respectfully requests reconsideration of this application as amended. Claims 1, 3 through 15, and 17 through 22 are pending in this application. Claims 2 and 16 are cancelled. New claims 19 through 22 have been added, and are hereby presented for examination.

## DRAWING ISSUES

In the Office Action at paragraph 2, the lack of a "pull-down resistor coupled to a switch" in the drawings was objected to. Applicant has cancelled claims 2 and 16, removing this from the claims as originally filed.

In the Office Action at paragraph 3, Figure 9 was objected to for not including reference number 920. Applicant wishes to draw attention to the upper left quadrant of Figure 9 as originally filed, where reference number 920 is included and points to the box labeled "pull up control". Applicant respectfully requests that the objection to Figure 9 be withdrawn.

In the Office Action at paragraph 4, certain reference numbers in Figures 1, 2, 5, 6, and 7 were objected to as not referenced in the written specification. Applicant has crossed out the cited reference numbers in red ink on the enclosed copies of Figures 1, 5, 6, and 7 as a proposed drawing change. A citation to reference number 210 of Figure 2 has been added to the paragraph beginning at page 5, line 22 and extending to page 6, line 6. Additionally, reference number 642 has been removed from Figure 6.

In the Office Action at Paragraph 5, Figure 8 was objected to as having two uses of reference number 732. In the attached revision of Figure 8 in red ink, applicant has corrected the reference to the pull-up resistor connected to TPA* to now read 734. Additionally, applicant has revised the paragraph beginning at page 16, line 5 and extending to page 16, line 17 to now recite "pull-up resistors 732, 734".

No new matter has been added in the above proposed drawing changes.

## SPECIFICATION ISSUES

In the Office Action at paragraph 6, the disclosure was objected to because of incorrect citations of "power switch 510" and "pull-up resistors 732, 742". Applicant has corrected these to now recite "power switch 512" and "pull-up resistors 732, 734" in the revised paragraphs included with this response. No new matter has been added in these amendments to the specification.

## CLAIM OBJECTIONS

In the Office Action at paragraph 7, claims 16 through 18 were objected to because they recite "the method" rather than "the apparatus". Applicant has corrected claims 14, 17, and 18 to correctly recite "the apparatus". (Claim 16 has been cancelled.)

SECTION 112 ISSUES

In the Office Action at paragraph 9, claims 2 and 16 stand rejected under 35 U.S.C. §112, first paragraph. Applicant has cancelled claims 2 and 16.

SECTION 102 ISSUES

In the Office Action, at paragraph 11, claims 1, 3 through 11, 15, 17, and 18 stand rejected under 35 U.S.C. §102(e) as being anticipated by *Huang, et al.*, U.S. patent number 6,131,134 (hereinafter *Huang*). Applicant respectfully traverses.

In the Office Action, in reference to claim 8, a correspondence was drawn from the recited "detach control signal wire" to the "switch controlling signal arrow from converting circuit 310 to switch 330 in Fig. 3" of *Huang*. In the case of *Huang*, the signal performing the function of a "detach control signal" is send from converting circuit 310 *at the same end* of the USB data bus as the switch 330. However, amended independent claim 8 now recites in pertinent part "a detach control signal wire of a data bus *coupled to said switch at a near end of said data bus*, to receive a detach control signal *sent from a far end of said data bus*." (Applicant's emphasis added.) Applicant believes that amended independent claim 8 is not anticipated by *Huang*, because *Huang* does not show a detach control signal being *sent from the far end* of the USB data bus. Applicant therefore believes that amended claim 8 is allowable over the cited *Huang* reference.

Because claims 9 through 14 depend from independent claim 8, and because applicant believes that independent claim 8 is now allowable, applicant further believes that claims 9 through 14 are now allowable.

In the Office Action, in reference to claim 1, it is stated that "the method steps of claim 1 are inherently performed by the apparatus of claim 8, and therefore the rejection of claim 8 applies to claim 1." Applicant has amended independent claim 1 to now recite in pertinent part "controlling said switch with a detach control signal *sent from a far end of said data bus.*" (Applicant's emphasis added.) This recitation in the method of amended claim 1 is similar to that recited above in reference to independent claim 8. For similar reasons applicant believes amended claim 1 is not anticipated by *Huang*, because *Huang* does not show a detach control signal being *sent from the far end* of the USB data bus. Applicant therefore believes that amended independent claim 1 is allowable over the cited *Huang* reference.

Because claims 3 through 7 depend from independent claim 1, and because applicant believes that independent claim 1 is now allowable, applicant further believes that claims 3 through 7 are now allowable.

In the Office Action, in reference to claim 15, a correspondence was drawn from the recited "means for controlling said switch with a detach control signal" to the "switch controlling signal arrow from converting circuit 310 to switch 330 in Fig. 3" of *Huang*. In the case of *Huang*, the signal performing the function of a "detach control signal" is send from converting circuit 310 *at the same end* of the USB data bus as the switch 330. However, amended independent claim 15 now recites in pertinent

part "means for controlling said switch with a detach control signal *sent from a far end of said data bus.*" (Applicant's emphasis added.) Applicant believes that amended independent claim 15 is not anticipated by *Huang*, because *Huang* does not show a detach control signal being *sent from the far end* of the USB data bus. Applicant therefore believes that amended claim 15 is allowable over the cited *Huang* reference.

Because claims 17 and 18 depend from independent claim 15, and because applicant believes that independent claim 15 is now allowable, applicant further believes that claims 17 and 18 are now allowable.

SUMMARY

Applicant believes that all pending claims are allowable over the cited art of record. Applicant therefore respectfully requests that all pending claims 1, 3 through 15, and 17 through 22 be allowed.

If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully requested to contact applicant's representative, Dennis A. Nicholls, at (408) 765-5789.

Authorization is hereby given to charge our Deposit Account No. 50-0221 any charges that may be due.

Respectfully submitted,

Date: October 18, 2002

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## CHANGE TO SPECIFICATION

## VERSION WITH MARKINGS TO SHOW CHANGES

The following is a copy of the paragraph beginning at page 5, line 22 and extending through page 6, line 6, marked up to show all the changes relative to the previous version of the paragraph:

D+ 204 and D- 206 signal wires carry the data signals of the USB wire segment 200 as a differential pair. In most applications, D+ 204 and D- 206 signal wires are implemented as a twisted pair 210 within USB wire segment 200. Two kinds of USB data transfers are supported, referred to as USB full-speed mode and USB low-speed mode. The USB full-speed mode transfers data at a 12.0 Megabit per second (Mb/s) signaling bit rate. The USB low-speed mode transfers data at a 1.5 Mb/s signaling bit rate. Both modes can be supported in the same USB system by automatic dynamic switching between transfers. A non-return-to zero inverted (NRZI) clock travels down the D+ 204 and D- 206 signal wires along with the data.

The following is a copy of the paragraph beginning at page 12, line 13 and extending through page 13, line 4, marked up to show all the changes relative to the previous version of the paragraph:

Conversely, when baseband signal controller 548 de-asserts WAK# on WAK# signal line 554, power switch 512 may act on this advisory signal by de-asserting the HPWR signal on HPWR signal line 516. In

other situations, power switch 512 [510] may de-assert HPWR in response to requirements of host 510, such as when a data transmission is finished. When HPWR signal is de-asserted, pull-up control 544 may then disconnect the Vbus signal from the Vbus signal wire 518 to the end of pull-up resistor 546 opposite from the D+ signal wire 524. Pull-up resistor 546 then no longer causes a positive offset on the D+ signal wire 524. Since the standard USB pull-down resistors 560, 562 act to pull the D+ and D- signals, respectively, towards ground, the host root hub 528 cannot recognize that logical attach/detach function 540 is, in fact, attached. This situation is one form of a logically detached state. Pull-up control 544 has denied a biasing voltage from pull-up resistor 546, and the resulting lack of offsets on the D+ signal wire 524 and D- signal wire 526 causes a logically detached state. This logically detached state is indistinguishable from a physically detached state from the viewpoint of the host root hub 528.

The following is a copy of the paragraph beginning at page 16, line 5 and extending through page 16, line 17, marked up to show all the changes relative to the previous version of the paragraph:

Referring now to Figure 8, a schematic diagram of an IEEE 1394 bus pull-up resistor bias source is shown. Node Z 740 may detect the physical attachment of node Y 710 due to a voltage bias provided by twisted pair bias source 712. Twisted pair bias source 712 includes a pair of pull-up resistors 732, 734 [742], which supply a biasing voltage TpBias to a twisted pair within cable segment 730 when node Z 740 is

attached to node Y 710 with cable segment 730. Biasing voltage TpBias is split by the action of the pull-up resistors 732, 734, and the pull-down resistors 736, 738, which are connected at one end to AC ground within node Z 740. Port status receiver 742 may note the presence of this split biasing voltage on the twisted pair wires, and indicate this presence to other circuits within node Z 740 as an indication of the physical attachment of node Y 710.

The following is a copy of the two paragraphs beginning at page 18, line 5 and extending through page 18, line 26, marked up to show all the changes relative to the previous version of the paragraph:

When the opposite situation is required, where a logical detachment of node Y 910 to node Z 940 is required by node Y 910, called a "local detachment", circuitry within node Y 910 may de-assert a pull-up enable signal on pull-up enable signal wire 928. This de-assertion may cause pull-up control 920 to disconnect biasing voltage TpBias from one end of pull-up resistors <u>932</u> [923], 934. This in turn removes the offset voltage on the twisted pair wires, as the pull-down resistors 936, 938 will pull the twisted pair wires down towards ground. This removal of the offset voltage is detected by port status receiver 942 of node Z 940. The new output of port status receiver 942 may be used by other circuitry within node Z 940 to indicate that node Y 910 is logically detached, even though node Y 910 remains physically attached to node Z 940 via cable segment 930.

Similarly, when a logical detachment of node Y 910 to node Z 940 is required by node Z 940, called a "remote detachment", circuitry within node Z 940 may de-assert a Z pull-up enable signal on Z pull-up enable signal wire 944. This de-assertion may cause pull-up control 920 to disconnect biasing voltage TpBias from one end of pull-up resistors 932 [923], 934. This in turn removes the offset voltage on the twisted pair wires, as the pull-down resistors 936, 938 will pull the twisted pair wires down towards ground. This removal of the offset voltage is again detected by port status receiver 942 of node Z 940.

## CLAIMS

## VERSION WITH MARKINGS TO SHOW CHANGES

1. (Once amended) A method, comprising:

providing a first resistor with a first end and a second end, said first end coupled to a switch and said second end coupled to a data bus wire <u>at a near end of a data bus</u>;

controlling said switch with a detach control signal <u>sent from a far end of said data bus</u>; and

switching a biasing voltage from said resistor utilizing said switch.

3. (Unamended) The method of claim 1, wherein said first resistor is configured as a pull-up resistor.

4. (Unamended) The method of claim 3, further comprising detecting said switching of said biasing voltage.

5. (Unamended) The method of claim 4, further comprising determining a logically detached state responsive to said detecting.

6. (Unamended) The method of claim 1, wherein said detach control signal is responsive to a wake-up signal.

7. (Unamended) The method of claim 6, wherein said detach control signal is asserted when said wake-up signal is de-asserted.

8. (Once amended) An apparatus, comprising:

a first resistor with a first end and a second end;

a switch coupled to said first end of said first resistor and to a bias voltage;

a detach control signal wire <u>of a data bus</u> coupled to said switch <u>at a near end of said data bus, to receive a detach control signal sent from a far end of said data bus</u>; and

a data bus wire <u>of said data bus</u> coupled to said second end of said first resistor.

9. (Once amended) The apparatus of claim 8, wherein said switch may apply said bias voltage to said first end of said first resistor responsively to <u>said</u> [a] detach control signal on said detach control signal wire.

10. (Unamended) The apparatus of claim 9, wherein said detach control signal is generated responsively to a wake-up signal.

11. (Once amended) The apparatus of claim 8, wherein said data bus [wire] carries universal serial bus data.

12. (Once amended) The apparatus of claim 8, wherein said data bus [wire] carries IEEE-1394 bus data.

13. (Unamended) The apparatus of claim 8, further comprising a second resistor with a first end and a second end, said first end coupled to said data bus wire.

14. (Once amended) The apparatus [method] of claim 13, wherein said second end of said second resistor is coupled to signal ground.

15. (Once amended) An apparatus, comprising:

means for providing a first resistor with a first end and a second end, said first end coupled to a switch and said second end coupled to a data bus wire at a near end of a data bus;

means for controlling said switch with a detach control signal sent from a far end of said data bus; and

means for switching a biasing voltage from said resistor utilizing said switch.

17. (Once amended) The apparatus [method] of claim 15, further comprising

means for detecting said switching of said biasing voltage.

18. (Once amended) The apparatus [method] of claim 15, wherein said detach control signal is responsive to a wake-up signal.

19. (New) A system, comprising:

a data bus with a near end and a far end;

a first circuit, coupled to said near end, including a first resistor with a first end and a second end, a switch coupled to said first end of said first resistor and to a bias voltage, a data bus wire of said data bus coupled to said second end of said first resistor, a detach control signal wire of said data bus coupled to said switch to receive a detach control signal; and

a second circuit, coupled to said far end, to send said detach control signal.

20. (New) The system of claim 19, wherein said switch may apply said bias voltage to said first end of said first resistor responsively to said detach control signal.

21. (New) The system of claim 20, wherein said detach control signal is sent in response to a wake-up signal.

22. (New) The system of claim 21, wherein said wake-up signal is sent by said first circuit.

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Approved
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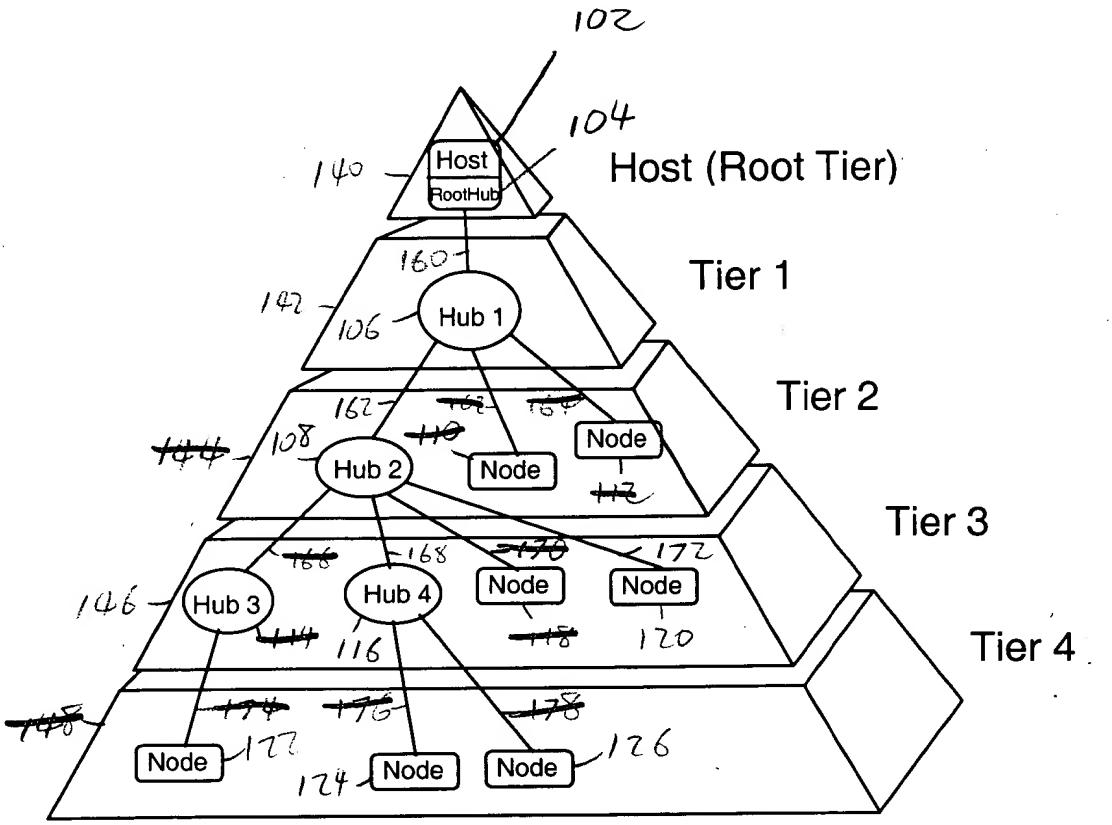


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FIGURE 1

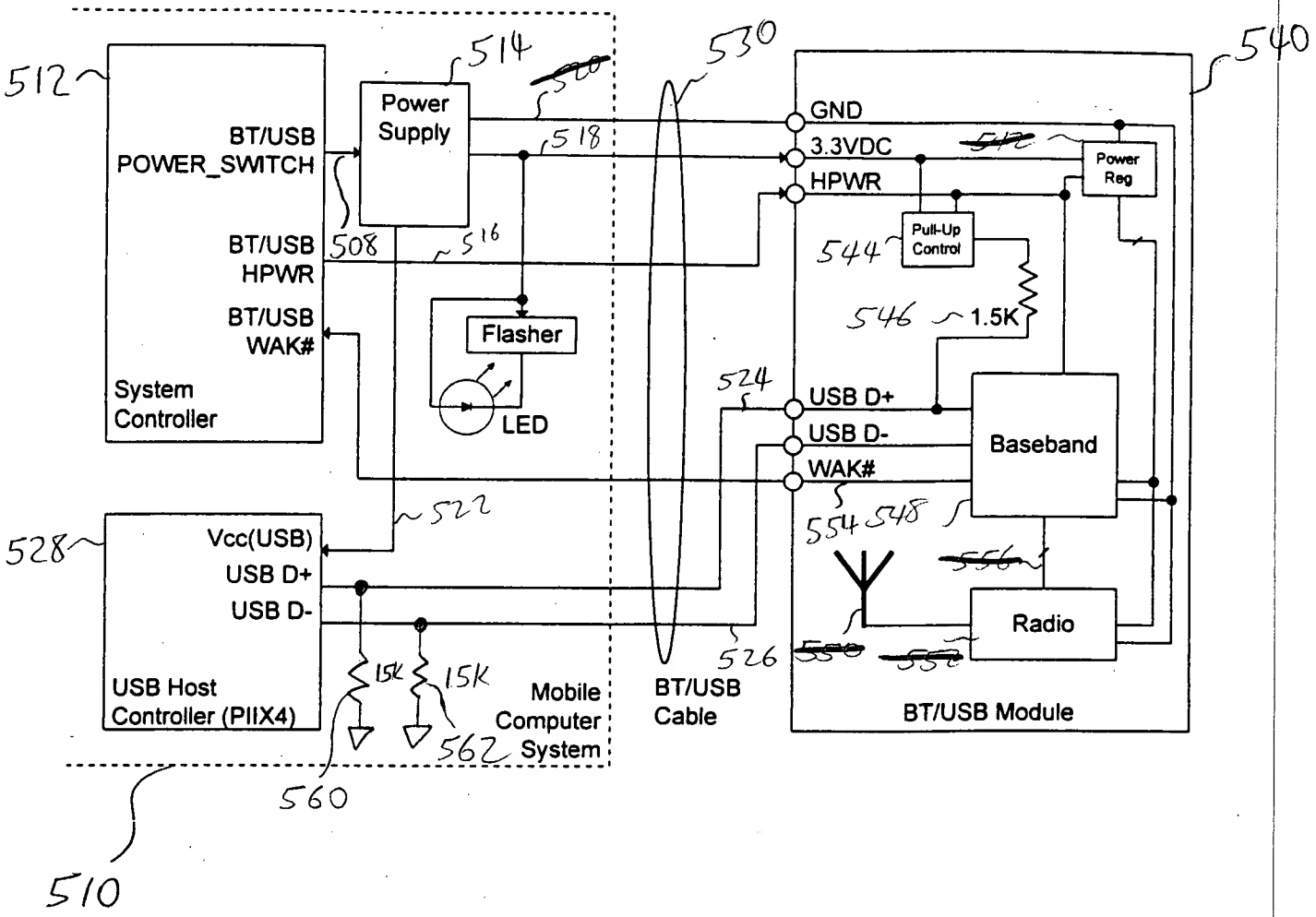
512
514
530
540
BT/USB
POWER_SWITCH
Power
Supply
518
BT/USB
HPWR
508
516
BT/USB
WAK#
System
Controller
Flasher
LED
GND
3.3VDC
HPWR
Power
Reg
Pull-Up
Control
544
546
1.5K
524
USB D+
USB D-
WAK#
Baseband
554
548
556
Radio
528
Vcc(USB)
USB D+
USB D-
522
15K
15K
562
560
526
USB Host
Controller (PIIX4)
Mobile
Computer
System
BT/USB
Cable
BT/USB Module
510

FIGURE 5

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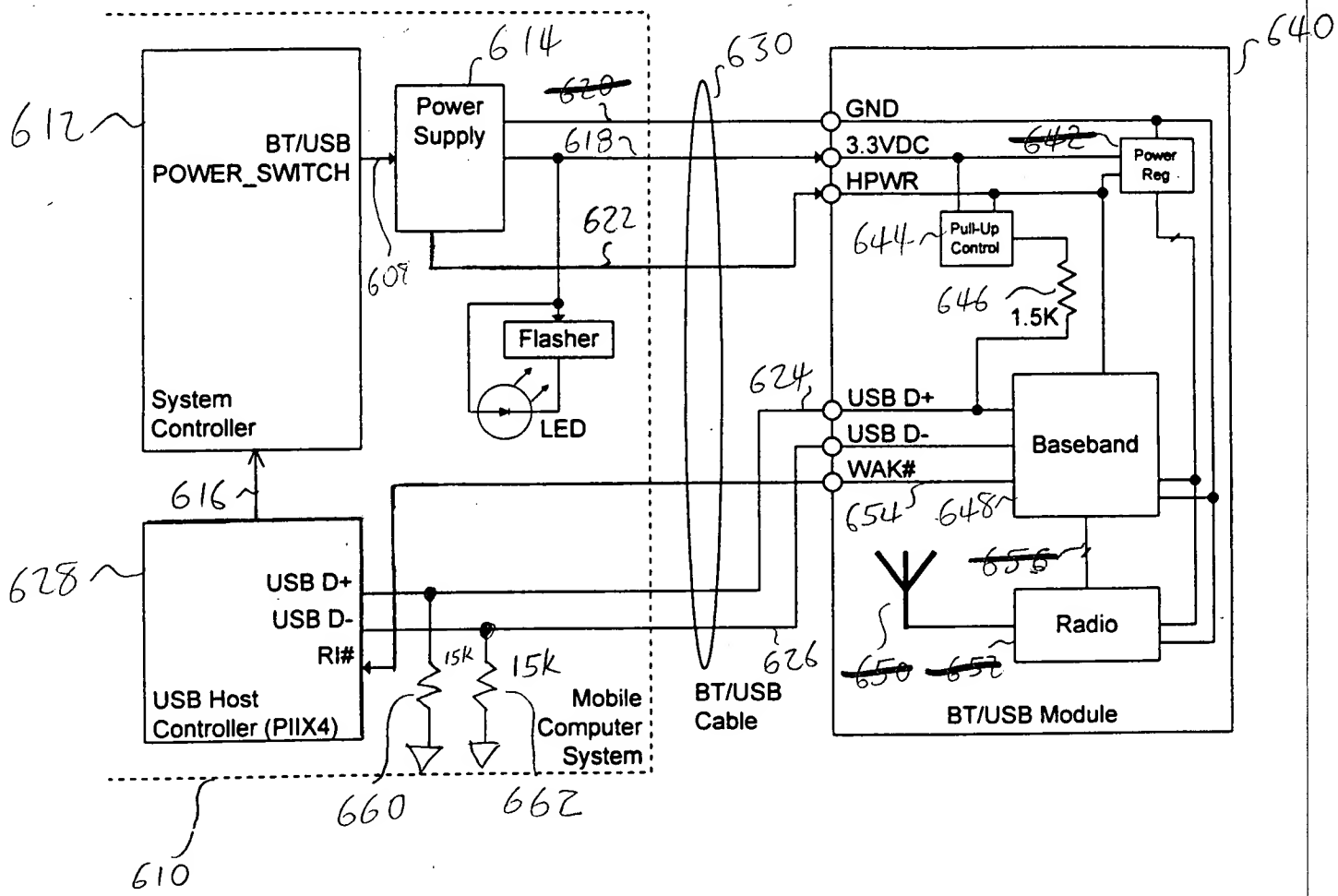


FIGURE 6

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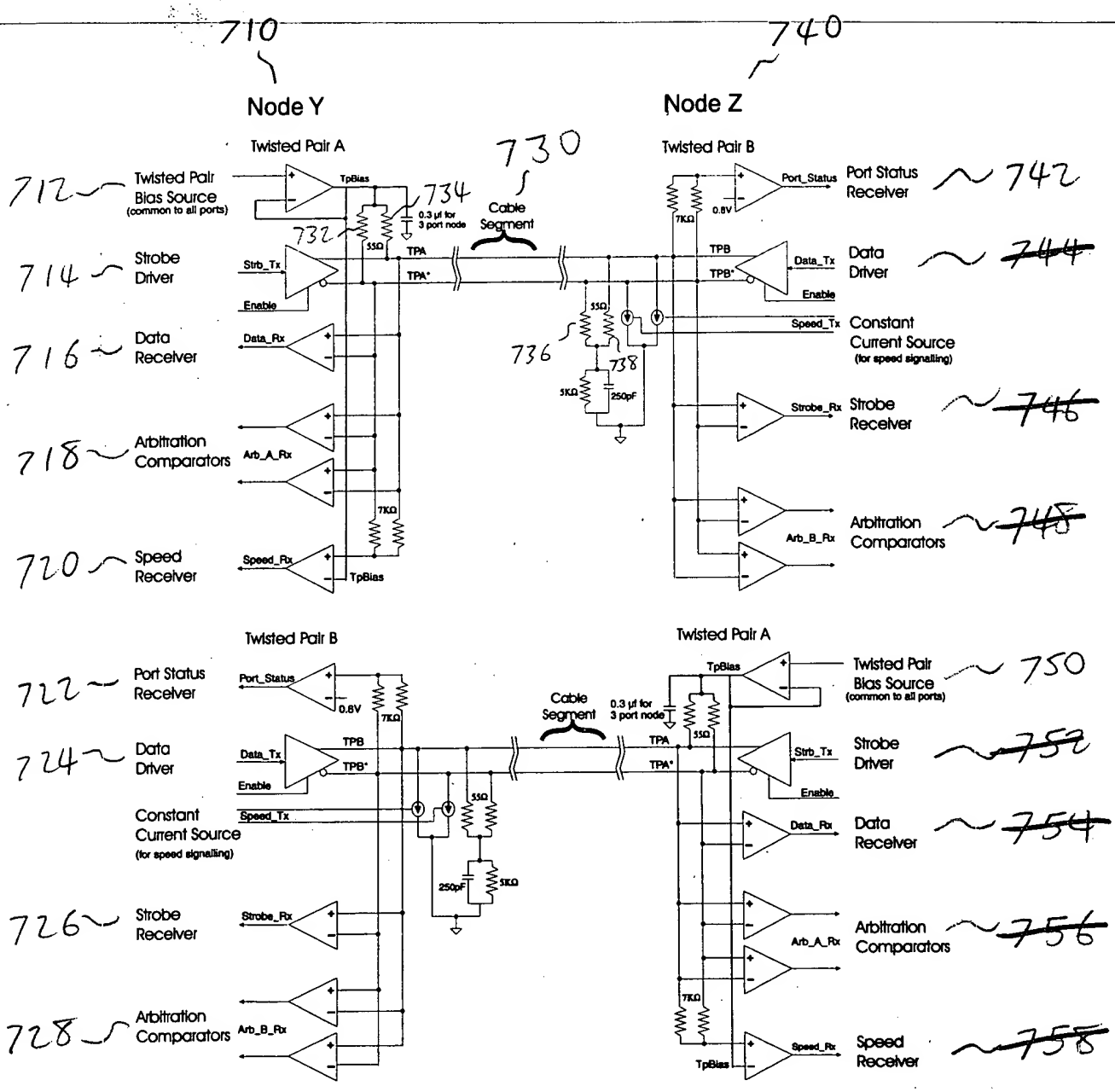
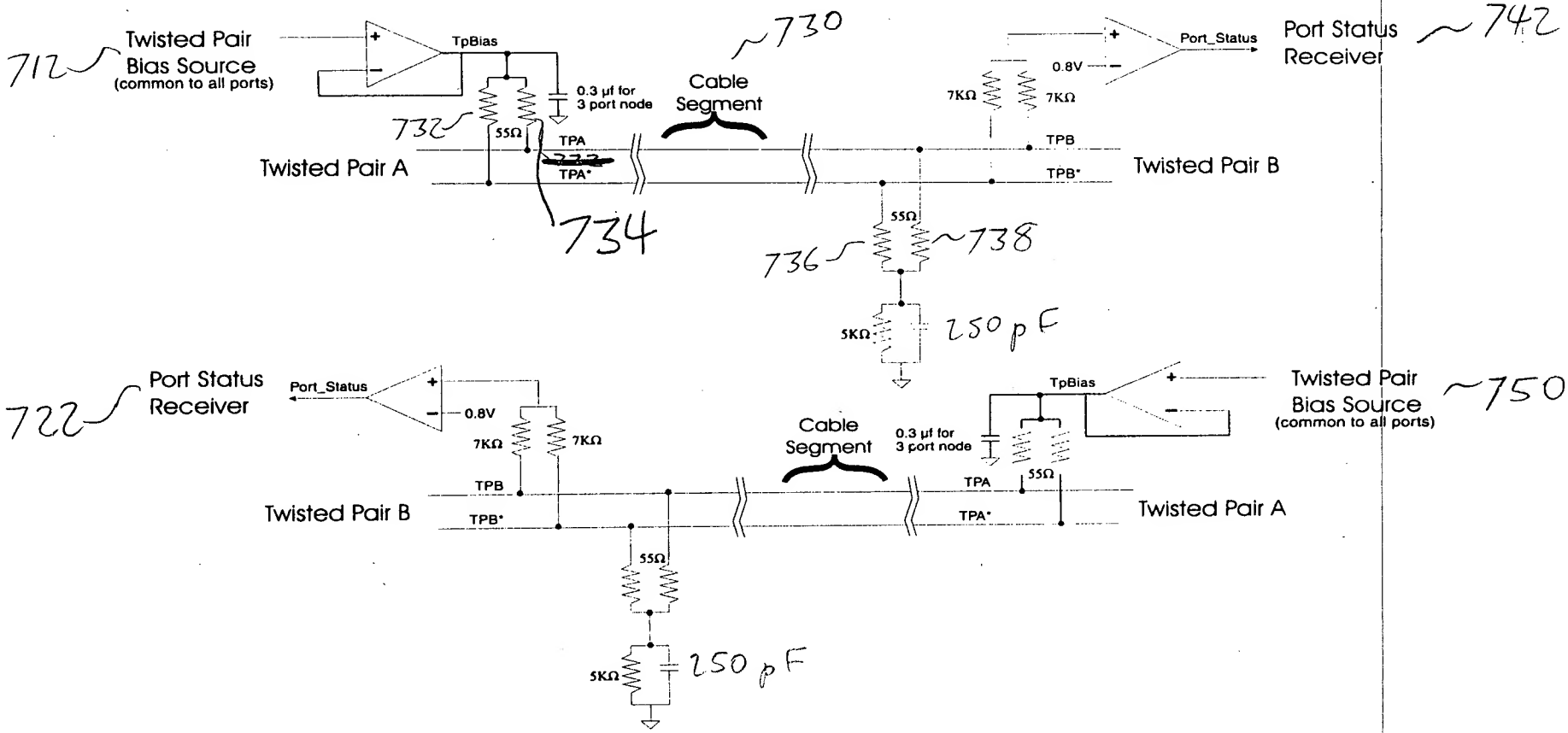



FIGURE 7




NODE Y

710

NODE Z

740

FIGURE 8